



## **ENVIRONMENTAL PROTECTION AGENCY**

### **40 CFR Part 52**

**[EPA-R09-OAR-2016-0244; FRL- 9954-76-Region 9]**

#### **Approval and Promulgation of Implementation Plans; State of California; Coachella Valley; Attainment Plan for 1997 8-Hour Ozone Standards**

**AGENCY:** Environmental Protection Agency (EPA).

**ACTION:** Proposed rule.

**SUMMARY:** The Environmental Protection Agency (EPA) is proposing to approve state implementation plan (SIP) revisions submitted by the State of California to provide for attainment of the 1997 8-hour ozone national ambient air quality standards in the Coachella Valley nonattainment area. The EPA is proposing to find the emissions inventories to be acceptable and to approve the reasonably available control measures, transportation control strategies and measures, rate of progress and reasonable further progress demonstrations, attainment demonstration, vehicle miles traveled offset demonstration and the transportation conformity motor vehicle emission budgets.

**DATES:** Any comments must be submitted by **[Insert date 30 days from the date of publication in the Federal Register]**.

**ADDRESSES:** Submit your comments, identified by Docket ID No. EPA-R09-OAR-2016-0244 at <http://www.regulations.gov>, or via email to [kelly.thomasp@epa.gov](mailto:kelly.thomasp@epa.gov). For comments submitted at Regulations.gov, follow the online instructions for submitting comments. Once submitted, comments cannot be edited or removed from Regulations.gov. For either manner of submission, the EPA may publish any comment received to its public docket. Do not submit electronically

any information you consider to be Confidential Business Information (CBI) or other information whose disclosure is restricted by statute. Multimedia submissions (audio, video, etc.) must be accompanied by a written comment. The written comment is considered the official comment and should include discussion of all points you wish to make. The EPA will generally not consider comments or comment contents located outside of the primary submission (*i.e.* on the web, cloud, or other file sharing system). For additional submission methods, please contact the person identified in the “**FOR FURTHER INFORMATION CONTACT**” section. For the full EPA public comment policy, information about CBI or multimedia submissions, and general guidance on making effective comments, please visit <http://www2.epa.gov/dockets/commenting-epa-dockets>.

*Docket:* The index to the docket for this action is available electronically on the [www.regulations.gov](http://www.regulations.gov) web site and in hard copy at EPA Region IX, 75 Hawthorne Street, San Francisco, California 94105. While all documents in the docket are listed in the index, some information may be publicly available only at the hard copy location (*e.g.*, copyrighted material), and some may not be publicly available at either location (*e.g.*, CBI). To inspect the hard copy materials, please schedule an appointment during normal business hours with the contact listed in the **FOR FURTHER INFORMATION CONTACT** section below.

**FOR FURTHER INFORMATION CONTACT:** Tom Kelly, Air Planning Office (AIR-2), U.S. Environmental Protection Agency, Region IX, (415) 972-3856, [kelly.thomasp@epa.gov](mailto:kelly.thomasp@epa.gov).

**SUPPLEMENTARY INFORMATION:** Throughout this document, “we,” “us” and “our” refer to the EPA.

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### **I. The 8-Hour Ozone Standards and the Coachella Valley Nonattainment Area**

#### *A. Background on the 8-Hour Ozone Standards*

Ground-level ozone is formed when oxides of nitrogen (NO<sub>x</sub>) and volatile organic compounds (VOC) react in the presence of sunlight.<sup>1</sup> These two pollutants, referred to as ozone

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<sup>1</sup> California plans use the term Reactive Organic Gases (ROG) for VOC. These terms are essentially synonymous. For simplicity, we use the term VOC herein to mean either VOC or ROG.

precursors, are emitted by many types of pollution sources, including on- and off-road motor vehicles and engines, power plants and industrial facilities, and smaller area sources such as lawn and garden equipment and paints.

Scientific evidence indicates that adverse public health effects occur following exposure to ozone, particularly in children and adults with lung disease. Breathing air containing ozone can reduce lung function and inflame airways, which can increase respiratory symptoms and aggravate asthma or other lung diseases. Ozone exposure also has been associated with increased susceptibility to respiratory infections, medication use, doctor visits, as well as emergency department visits and hospital admissions for individuals with lung disease. Ozone exposure also increases the risk of premature death from heart or lung disease. Children are at increased risk from exposure to ozone because their lungs are still developing and they are more likely to be active outdoors, which increases their exposure. *See* “Fact Sheet, Proposal to Revise the National Ambient Air Quality Standards for Ozone” (January 6, 2010); 75 FR 2938 (January 19, 2010).

In 1979, under section 109 of the Clean Air Act (CAA), the EPA established primary and secondary national ambient air quality standards (NAAQS or standards) for ozone at 0.12 parts per million (ppm) averaged over a 1-hour period. *See* 44 FR 8202 (February 8, 1979).

On July 18, 1997, the EPA revised the primary and secondary standards for ozone to set the acceptable level of ozone in the ambient air at 0.08 ppm, averaged over an 8-hour period (“1997 8-hour ozone standards”). *See* 62 FR 38856 (July 18, 1997). The EPA set the 1997 8-hour ozone standard based on scientific evidence demonstrating that ozone causes adverse health effects at lower concentrations and over longer periods of time than was understood when the previous 1-hour ozone standards were set. The EPA determined that the 1997 8-hour standards would be more protective of human health, especially for children and adults who are active

outdoors, and individuals with a pre-existing respiratory disease, such as asthma.<sup>2</sup> In 2008, the EPA revised and strengthened the NAAQS for ozone by setting the acceptable level of ozone in the ambient air at 0.075 ppm, averaged over an 8-hour period. 73 FR 16436 (March 27, 2008). In 2015, the EPA further tightened the 8-hour ozone standards to 0.070 ppm. 80 FR 65292 (October 26, 2015). While the 1979 1-hour ozone standards and the 1997 8-hour ozone standards have been revoked, certain requirements that had applied under the revoked standards continue to apply under the anti-backsliding provisions of CAA section 172(e), including an approved attainment plan.

#### *B. The Coachella Valley 8-Hour Ozone Nonattainment Area*

Following promulgation of a new or revised NAAQS, the EPA is required by the CAA to designate areas throughout the nation as attaining or not attaining the standards. Effective June 15, 2004, we designated nonattainment areas for the 1997 8-hour ozone standards. *See* 69 FR 23858 (April 30, 2004). The designations and classifications for the 1997 8-hour ozone standards for California areas are codified at 40 CFR 81.305. In a rule governing certain facets of implementation of the 8-hour ozone standards (the Phase 1 Rule), the EPA classified the Coachella Valley as “Serious” for the 1997 8-hour ozone standards, with an attainment date no later than June 15, 2013. *See* 69 FR 23858 (April 30, 2004). On November 28, 2007, the California Air Resources Board (CARB or State) requested that the EPA reclassify the Coachella Valley 8-hour ozone nonattainment area from “Serious” to “Severe-15.” The EPA granted the

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<sup>2</sup> On March 27, 2008, the EPA revised and further strengthened the primary and secondary NAAQS for ozone by setting the acceptable level of ozone in the ambient air at 0.075 ppm, averaged over an 8-hour period (“2008 8-hour ozone standards”). *See* 73 FR 16436. On May 21, 2012, the EPA designated areas of the country with respect to the 2008 8-hour ozone standards. *See* 77 FR 30088 and 40 CFR 81.330. On October 1, 2015, the EPA again strengthened the primary and secondary NAAQS for ozone in ambient air to 0.070 ppm averaged over 8 hours. *See* 80 FR 65292. For nonattainment areas classified as “serious” under the 2008 ozone standards, such as the Coachella Valley, attainment SIPs were due on July 21, 2016. We will evaluate the 2008 attainment SIPs in the timeframes specified by the CAA. We have not yet set SIP submittal dates for the 2015 8-hour ozone standards. Today’s action applies only to the 1997 8-hour ozone standards and does not address requirements for the 2008 and 2015 8-hour ozone standards.

reclassification, effective June 4, 2010, with an attainment date of not later than June 15, 2019. *See* 75 FR 24409 (May 5, 2010).

The Coachella Valley area is located within Riverside County. For a precise description of the geographic boundaries of the area, see 40 CFR 81.305. The Coachella Valley is under the jurisdiction of the South Coast Air Quality Management District (SCAQMD or District). The District and CARB are responsible for adopting and submitting a state implementation plan (SIP) to attain the 1997 8-hour ozone standards for nonattainment areas in their jurisdiction.

Air quality in the Coachella Valley has steadily improved in recent years. Design values have declined from 0.108 ppm in 2003 to 0.088 ppm in 2015.<sup>3</sup> Design values are used to designate and classify nonattainment areas, as well as to assess progress towards meeting the air quality standards.<sup>4</sup>

The Coachella Valley is downwind from the South Coast Air Basin, which is also regulated by the SCAQMD. The South Coast Air Basin's continued progress toward meeting the 1997 Ozone standards is critical to the Coachella Valley attaining the 1997 ozone standards. The SCAQMD's Final 2007 Air Quality Management Plan (2007 AQMP) states, "pollutant transport from the South Coast Air Basin to the Coachella Valley is the primary cause of its ozone nonattainment status."<sup>5</sup> The 2007 AQMP cites several studies that confirm the transport between the two air basins.<sup>6</sup> It also describes the late daily peak in ozone concentrations, 6:00 pm for

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<sup>3</sup> Design values for 2000 to 2006 are contained in Figure 8-5 of the 2007 AQMP. Design values for 2005 to 2015 are contained in the Air Quality Subsystem (AQS) Preliminary Design Value Report for the Coachella Valley and Western Mojave Desert (September 7, 2016). These documents are in the docket for today's action.

<sup>4</sup> For more information about ozone design values, *see* 40 CFR 50, Appendix I.

<sup>5</sup> "Final 2007 Air Quality Management Plan," South Coast Air Quality Management District, June 2007, *see* page 8-1.

<sup>6</sup> 2007 AQMP at 8-4 (citing R.W. Keith (SCAQMD) A Climatological / Air Quality Profile, California South Coast Air Basin, 1980; E.K. Kauper (Pollution Res. & Control Corp.), Coachella Valley Air Quality Study, Final Report, (County Contract & U.S. Public Health Service Grant No. 69-A-0610), 1971; P.J. Drivas and F.H. Shair, A Tracer Study of Pollutant Transport in the Los Angeles Area, *Atmos. Environ.* 8: 1155-1163, 4, 1974; T.B. Smith et al.

Palm Springs, as indicative of pollution that has been transported. The 2007 AQMP states, “if this peak [in ozone concentrations] were locally generated, it would be occurring near mid-day and not in the late afternoon or early evening.”<sup>7</sup> The 2007 AQMP also compares the relative magnitudes of VOC and NO<sub>x</sub> emissions in the Coachella Valley and the South Coast Air Basin, showing average annual VOC emissions to be 30-40 times greater in the South Coast Air Basin than in the Coachella Valley, and average annual NO<sub>x</sub> emissions to be more than 20 times greater in the South Coast Air Basin.<sup>8</sup>

## **II. CAA and Regulatory Requirements for Ozone Nonattainment SIPs**

States must implement the 1997 8-hour ozone standards under Title 1, Part D of the CAA, which includes section 172, “Nonattainment plan provisions,” and subpart 2, “Additional Provisions for Ozone Nonattainment Areas” (sections 181-185).

In order to assist states in developing effective plans to address ozone nonattainment problems, the EPA issued an implementation rule for the 1997 8-hour ozone standards (“1997 Ozone Implementation Rule”). This rule was finalized in two phases. The first phase of the rule addressed classifications for the 1997 8-hour ozone standards, applicable attainment dates for the various classifications, and the timing of emissions reductions needed for attainment. *See* 69 FR 23951 (April 30, 2004). The second phase addressed SIP submittal dates and the requirements for reasonably available control technology and measures (RACT and RACM), reasonable further progress (RFP), modeling and attainment demonstrations, contingency measures, and new source review. *See* 70 FR 71612 (November 29, 2005). The rule was codified at 40 CFR part 51, subpart X.

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(ARB Contract to MRI/Caltech), “The Impact of Transport from the South Coast Air Basin on Ozone Levels in the Southeast Desert Air Basin,” 1983).

<sup>7</sup> 2007 AQMP at 8-4.

<sup>8</sup> 2007 AQMP at 8-4, Table 8-2.

The EPA announced the revocation of the 1997 8-hour ozone NAAQS and the anti-backsliding requirements that apply upon revocation, in a rulemaking that established final implementation rules for the 2008 8-hour ozone NAAQS. 80 FR 12264 (March 6, 2015). Consistent with the anti-backsliding provisions in CAA section 172(e), the EPA included anti-backsliding requirements that apply upon revocation of the 1997 8-hour ozone NAAQS. Notwithstanding revocation of the 1997 8-hour ozone NAAQS, areas that were designated as nonattainment for the 1997 8-hour ozone NAAQS at the time the standards were revoked continue to be subject to certain SIP requirements that had previously applied based on area classifications for the standards. *Id.* at 12296; 40 CFR 51.1105 and 51.1100(o). Thus, in general, the Coachella Valley remains subject to the requirements of the 1997 8-hour ozone NAAQS applicable to “Severe” nonattainment areas.

We discuss the CAA and regulatory requirements for 1997 8-hour ozone nonattainment plans in more detail below.

### **III. CARB’s SIP Submittals to Address the 1997 8-Hour Ozone Standards in the Coachella Valley Nonattainment Area**

#### ***A. CARB’s SIP Submittals***

Designation of an area as nonattainment starts the process for a state to develop and submit to the EPA a SIP providing for attainment of the NAAQS under title 1, part D of the CAA. For areas designated as nonattainment for the 1997 8-hour ozone NAAQS effective June 15, 2004, this attainment SIP was due by June 15, 2007. *See* CAA section 172(b). CARB made the following five SIP submittals to address the CAA planning requirements for attaining the 1997 8-hour ozone NAAQS for the Coachella Valley (and other areas as noted):



- “Final 2007 Air Quality Management Plan,” South Coast Air Quality Management District, June 2007 (2007 AQMP);<sup>9</sup>
- “2007 State Strategy for the California State Implementation Plan,” Release Date April 26, 2007 and Appendices A – G, CARB, Release Date May 7, 2007 (2007 State Strategy);<sup>10</sup>
- “Status Report on the State Strategy for California’s 2007 State Implementation Plan (SIP) and Proposed Revision to the SIP Reflecting Implementation of the 2007 State Strategy,” CARB, Release Date: March 24, 2009 (2009 State Strategy Status Report);
- “Progress Report on Implementation of PM<sub>2.5</sub> State Implementation Plans (SIP) for the South Coast and San Joaquin Valley Air Basins and Proposed SIP Revisions,” CARB, Release Date March 29, 2011 (2011 State Strategy Progress Report); and
- “Staff Report, Proposed Updates to the 1997 8-Hour Ozone Standard, State Implementation Plans; Coachella Valley and Western Mojave Desert,” CARB, Release Date: September 22, 2014 (2014 SIP Update).<sup>11</sup>

Additionally, on March 24, 2008, CARB submitted an Ozone Early Progress Plan<sup>12</sup> for several areas, including the Coachella Valley. The plan consisted of motor vehicle emissions budgets for transportation conformity. The EPA found the Coachella Valley NO<sub>x</sub> and VOC budgets adequate for the 1997 ozone standards, effective May 22, 2008. *See* 73 FR 25694 (May 7, 2008).

In today’s proposal, we refer to the portions of these documents relevant to the Coachella Valley collectively as the “Coachella Valley Ozone Plan” or “the Plan.” EPA has already

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<sup>9</sup> *See* letter from James N. Goldstene, Executive Officer, CARB, to Wayne Nastri, Regional Administrator, EPA Region 9, November 28, 2007 with enclosures.

<sup>10</sup> *See* letter from James N. Goldstene, Executive Officer, CARB, to Wayne Nastri, Regional Administrator, EPA Region 9, November 16, 2007 with enclosures.

<sup>11</sup> *See* letter from Richard Corey, Executive Officer CARB, to Jared Blumenfeld, Regional Administrator, U.S. EPA, dated November 6, 2014 with enclosures.

<sup>12</sup> “Early Progress Plans Demonstrating Progress Toward Attaining the 8-hour National Air Quality Standards for Ozone and Setting Transportation Conformity Budgets for Ventura County, Antelope Valley - Western Mojave Desert, Coachella Valley, Eastern Kern County, and Imperial County” (revised), CARB (February 27, 2008).

approved portions of these documents in actions for other nonattainment areas.<sup>13</sup> Similarly, in today's proposal, we are evaluating and proposing action on only those portions of the 2007 AQMP that are relevant to attainment of the 1997 8-hour ozone NAAQS in the Coachella Valley. Below is a description of the portions that are relevant to the Coachella Valley.

#### 2007 AQMP

The 2007 AQMP discusses attainment of the 1997 ozone NAAQS for both the South Coast Air Basin and Coachella Valley, and the 1997 PM<sub>2.5</sub> NAAQS for the South Coast Air Basin. We are only acting on the ozone portions of the 2007 AQMP, and only on the portions applicable to the Coachella Valley, which includes the following sections of the 2007 AQMP: the emissions estimates, RFP demonstrations, and motor vehicle emission budgets for the Coachella Valley in Chapter 8; the detailed base and future emission inventories in Appendix III; the modeling for the attainment demonstration in Chapter 5 and Appendix V; the control strategy in Chapters 4 and 7; and the RACM discussion in Chapter 6 and Appendix VI.

#### State Strategy

The 2007 State Strategy, as amended by the 2009 State Strategy Status Report and 2011 State Strategy Progress Report, provides a RACM demonstration for mobile sources. The relevant portions of the 2007 State Strategy include Chapter 3, which describes California's SIP commitments, and Chapter 5, which lists individual measures in more detail, as part of the State's submittal. We note, however, that other portions of the 2007 State Strategy contain additional information relevant to Coachella Valley, such as emissions reductions from the Strategy contained in Appendix A. Appendix F of the 2011 State Strategy Progress Report

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<sup>13</sup> For example, portions of the 2007 AQMP, 2007 State Strategy, and the 2011 State Strategy Progress Report were approved in EPA actions on the SCAQMD Attainment Plan for the 1997 8-hour Ozone Standards. *See* 77 FR 12674 (March 1, 2012) and 79 FR 52539 (September 3, 2014).

provides revised control measure commitments and a revised rule implementation schedule for the 2007 AQMP.

#### 2014 SIP Update

The 2014 SIP Update, which covers both the Coachella Valley and Western Mojave Desert 1997 8-hour ozone nonattainment areas, updates the following sections of the 2007 AQMP: emissions inventories; RFP demonstration, and vehicle miles travelled (VMT) offset demonstration. The 2014 SIP Update also updates the motor vehicle emissions budgets in the Ozone Early Progress Plan mentioned above. It also revises the attainment targets for NO<sub>x</sub> and VOC emissions, using the same percentage reduction from the 2002 baseline as planned in the 2007 AQMP. Finally, the 2014 SIP Update (and 2007 AQMP) also contain contingency measures to be implemented in the event the area fails to meet an RFP milestone or fails to attain by the applicable date, as required by CAA section 172(c)(9). We are not proposing action on these contingency measures at this time. Contingency measures are a distinct provision of the Clean Air Act that we may act on separately from the attainment requirements.

#### *B. CAA Procedural and Administrative Requirements for SIP Submittals*

CAA sections 110(a)(1) and (2) and 110(l) require a state to provide reasonable public notice and opportunity for public hearing prior to the adoption and submittal of a SIP or SIP revision. To meet this requirement, every SIP submittal should include evidence that adequate public notice was given and an opportunity for a public hearing was provided consistent with the EPA's implementing regulations in 40 CFR 51.102.

The SCAQMD and CARB provided public notice and an opportunity for public comment through public comment periods, and held public hearings prior to adopting the components of the Coachella Valley Ozone Plan. Hearing and adoption dates are shown in Table 1. The

SCAQMD's and CARB's submittals both include proof of publication for notices of the District's and CARB's public hearings, as evidence that all hearings were properly noticed. Therefore, we find the submittals meet the procedural requirements of CAA sections 110(a) and 110(l).

<b>Table 1. Agencies and Adoption Dates for the Coachella Valley Attainment Plan for the 1997 Ozone Standards</b>			
<b>Agency / Submittal</b>	<b>Start of Public Notice</b>	<b>Hearing and Adoption Dates</b>	<b>Board Resolution</b>
SCAQMD / 2007 AQMP	March 2, 2007	June 1, 2007	07-9
CARB / 2007 State Strategy	May 7, 2007	June 21 and 22, 2007, and July 27, 2007	07-28
CARB / 2007 AQMP	August 10, 2007	September 27, 2007	07-41
CARB / 2009 State Strategy Status Report	March 24, 2009	April 23, 2009	09-34
CARB / 2011 State Strategy Progress Report	March 29, 2011	April 28, 2011	11-24
CARB / 2014 SIP Update	September 22, 2014	October 24, 2014	14-29

CAA section 110(k)(1)(B) requires that the EPA determine whether a SIP submittal is complete within 60 days of receipt. This section of the CAA also provides that any plan that the EPA has not affirmatively determined to be complete or incomplete will be deemed complete by operation of law six months after the date of submittal. The EPA's SIP completeness criteria are found at 40 CFR part 51, Appendix V. The EPA's completeness determinations for each submittal are shown in Table 2.

<b>Table 2. Submittals and Completeness Determinations for the Coachella Valley Ozone Plan</b>		
<b>Submittal</b>	<b>Submittal Date</b>	<b>Completeness Date</b>
2007 State Strategy	November 16, 2007	May 14, 2008

2007 AQMP	November 28, 2007	May 26, 2008
2009 State Strategy Status Report	August 12, 2009	February 8, 2010
2011 State Strategy Progress Report	July 29, 2011	January 25 2012
2014 SIP Update	November 6, 2014	May 5, 2015

#### **IV. Review of the Coachella Valley Ozone Plan**

##### *A. Emissions Inventories*

##### **1. Requirements for Emissions Inventories**

CAA section 182(a)(1) requires each state with an ozone nonattainment area classified under subpart 2 to submit a “comprehensive, accurate, current inventory of actual emissions from all sources” of the relevant pollutants in accordance with guidance provided by the Administrator. While this inventory is not a specific requirement under the anti-backsliding provisions at 40 CFR 51.1105 and 51.1100(o), it provides support for demonstrations required under these anti-backsliding rules. Additionally, a baseline emissions inventory is needed for the attainment demonstration and for meeting RFP requirements. EPA’s 1997 Ozone Implementation Rule identifies 2002 as the baseline year for the SIP planning emissions inventory. *See* 69 FR 23980 (October 27, 2004). EPA emissions inventory guidance sets specific planning requirements pertaining to future milestone years for reporting RFP and to attainment demonstration years.<sup>14</sup> Key RFP analysis years in the RFP demonstration include 2008 and every subsequent 3 years until the attainment date.

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<sup>14</sup> “Emission Inventory Guidance for Implementation of Ozone and Particulate Matter National Ambient Air Quality Standards (NAAQS) and Regional Haze Regulations” (EPA-454/R-05-001, August 2005, updated November 2005) and “Final Rule to Implement the 8-Hour Ozone National Ambient Air Quality Standards – Phase 2” (70 FR 71612).

We have evaluated the emissions inventories in the Coachella Valley Ozone Plan to determine if they are consistent with EPA guidance and adequate to support the Plan's RACM, RFP, rate of progress (ROP) and attainment demonstrations.

## 2. Emissions Inventories in the Coachella Valley Ozone Plan

Appendix A of the 2014 SIP Update contains detailed emissions inventories for the Coachella Valley. A partial summary of this information is contained in Table 3. The average summer weekday emissions typical of the ozone season are used for the 2002 base year planning inventory and the 2018 attainment year.<sup>15</sup> These inventories incorporate reductions from federal, state, and district control measures received by CARB through September 2012.

<b>Table 3. Coachella Valley NO<sub>x</sub> and VOC Emissions Inventory Summaries for the 2002 Base Year and 2018 Attainment Year (average summer weekday emissions in tons per day)<sup>a</sup></b>				
<b>Category</b>	<b>NO<sub>x</sub></b>		<b>VOC</b>	
	<b>2002</b>	<b>2018</b>	<b>2002</b>	<b>2018</b>
Stationary Sources	0.875	0.851	3.067	4.182
Area Sources	0.492	0.305	5.061	3.863
On-Road Mobile Sources	33.009	10.558	9.294	2.897
Other Mobile Sources	8.912	5.109	5.287	3.919
Totals <sup>b</sup>	43.287	16.823	22.709	14.861

<sup>a</sup> Source: 2014 SIP Update, Appendix A, Table A-1.

<sup>b</sup> Because of rounding conventions, source categories may not add to the exact emission totals.

The on-road motor vehicles inventory category consists of trucks, automobiles, buses, and motorcycles. California's model for estimating emissions from on-road motor vehicles operating in California is referred to as "EMFAC" (short for EMISSION FACTOR). EMFAC has undergone many revisions over the years. At the time the 2014 SIP Update was submitted, EMFAC2011 was the model approved by the EPA for estimating on-road motor source

<sup>15</sup> "Attainment year" refers to the ozone season immediately preceding a nonattainment area's attainment date. In the case of the Coachella Valley, the applicable attainment date is June 15, 2019, and the ozone season immediately preceding that date will occur in year 2018.

emissions in California.<sup>16</sup> See 78 FR 14533 (March 6, 2013). Appendix D of the 2014 SIP Update contains the latest on-road motor vehicle summer planning VOC and NO<sub>x</sub> inventories, vehicle population, VMT and trips for each EMFAC vehicle class category for the Coachella Valley. The motor vehicle emissions in the Plan are based on CARB's EMFAC2011 emission factor model and the latest planning assumptions from Southern California Association of Government's (SCAG's) 2012-2035 Regional Transportation Plan.<sup>17</sup>

The 2014 SIP Update contains off-road VOC and NO<sub>x</sub> inventories developed by CARB using category-specific methods and models.<sup>18</sup> The off-road mobile source category includes aircraft, trains, ships, and off-road vehicles and equipment used for construction, farming, commercial, industrial, and recreational activities.

The stationary source category of the emissions inventory includes non-mobile, fixed sources of air pollution comprised of individual industrial, manufacturing, and commercial facilities. Examples of stationary sources (a.k.a., point sources) include fuel combustion (*e.g.*, electric utilities), waste disposal (*e.g.*, landfills), cleaning and surface coatings (*e.g.*, printing), petroleum production and marketing, and industrial processes (*e.g.*, chemical). Stationary source operators report to the District the process and emissions data used to calculate emissions from point sources. The District then enters the information reported by emission sources into the California Emission Inventory Development and Reporting System (CEIDARS) database.<sup>19</sup>

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<sup>16</sup> EMFAC2011's approval is granted in 78 FR 14533. More recently, the EPA approved EMFAC2014 as the model for estimating on-road emissions. That approval allowed the continued use of EMFAC2011 until December 14, 2017. See 80 FR 77337.

<sup>17</sup> SCAG's Regional Transportation Plan 2012-2035, including Amendment #1 and #2 and the Air Quality Conformity Analysis. April 2012. Federal Highway Administration approval July 15, 2013.

<sup>18</sup> Detailed information on CARB's off-road motor vehicle emissions inventory methodologies is found at: [http://www.arb.ca.gov/msei/categories.htm#offroad\\_motor\\_vehicles](http://www.arb.ca.gov/msei/categories.htm#offroad_motor_vehicles).

<sup>19</sup> The CEIDARS database consists of two categories of information: source information and utility information. Source information includes the basic inventory information generated and collected on all point and area sources. Utility information generally includes auxiliary data, which helps categorize and further define the source

The area sources category includes aggregated emissions data from processes that are individually small and widespread or not well-defined point sources. The area source subcategories include solvent evaporation (*e.g.*, consumer products and architectural coatings) and miscellaneous processes (*e.g.*, residential fuel combustion and farming operations). Emissions from these sources are calculated from product sales, population, employment data, and other parameters for a wide range of activities that generate air pollution in the Coachella Valley.<sup>20</sup>

The emission inventories in the 2014 SIP Update use the California Emission Projection Analysis Model (CEPAM).<sup>21</sup> The CEPAM model used in the 2014 SIP Update is based on a 2008 baseline inventory developed using the methods and databases described above (*e.g.*, EMFAC2011; CEIDARS; and CARB modular off-road equipment updates such as the 2011 In-Use Off-Road Equipment model, Transportation Refrigeration Units model, and Cargo Handling Equipment model.). The inventory was calibrated to 2008 emissions and activity levels, and inventories for other years are back-cast (*e.g.*, 2002) or forecast (*e.g.*, 2018) using CEPAM from that base inventory.<sup>22</sup>

### 3. Proposed Action on the Emissions Inventories

We have reviewed the emissions inventories in the Coachella Valley Ozone Plan and the inventory methodologies used by the District and CARB for consistency with CAA section

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information. Used together, CEIDARS is capable of generating complex reports based on a multitude of category and source selection criteria.

<sup>20</sup> Detailed information on the area-wide source category emissions is found on the CARB website: <http://www.arb.ca.gov/ei/areasrc/areameth.htm>.

<sup>21</sup> Appendix A of the 2014 SIP Update contains the estimated VOC and NO<sub>x</sub> stationary, area-wide and off-road forecast summaries by Emission Inventory Code categories for the Coachella Valley from CEPAM. A CEPAM inventory tool was created to support the development of the 2012 PM<sub>2.5</sub> SIPs due at that time. The tool was designed to support all of the modeling, planning, and reporting requirements due at that time and includes updates for all the pollutants (*e.g.*, NO<sub>x</sub> and VOC). Modeling results, which are summarized in Appendix A, are available separately in electronic file format.

<sup>22</sup> 2014 SIP Update, page A-1



182(a)(1) and EPA guidance. We find that the base year and projected attainment year inventories are comprehensive, accurate, and current inventories of actual and projected emissions of NO<sub>x</sub> and VOC in the Coachella Valley as of the date of the submittal. Accordingly, we propose to find that these inventories provide an appropriate basis for the various other elements of the Coachella Valley Ozone Plan, including the RACM, ROP, RFP, and attainment demonstrations.

*B. Reasonably Available Control Measures Demonstration and Adopted Control Strategy*

1. RACM Requirements

CAA section 172(c)(1) requires that each attainment plan provide for the implementation of all reasonable available control measures as expeditiously as practicable and provide for attainment of the NAAQS. The RACM demonstration requirement is a continuing applicable requirement for the Coachella Valley under the EPA's anti-backsliding rules that apply once a standard has been revoked. *See* 40 CFR 51.1105(a)(1) and 51.1100(o)(17).

The EPA has previously provided guidance interpreting the RACM requirement in the "General Preamble for the Implementation of Title I of the Clean Air Act Amendments of 1990" ("General Preamble")<sup>23</sup> and in a memorandum entitled "Guidance on Reasonably Available Control Measures (RACM) Requirements and Attainment Demonstration Submissions for the Ozone NAAQS," John Seitz, November 30, 1999 (Seitz memo).<sup>24</sup> In summary, EPA guidance provides that to address the requirement to adopt all RACM, states should consider all potentially reasonable control measures for source categories in the nonattainment area to determine whether they are reasonably available for implementation in

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<sup>23</sup> *See* 57 FR 13498, 13560. The General Preamble describes the EPA's preliminary view on how we would interpret various SIP planning provisions in title I of the CAA as amended in 1990, including those planning provisions applicable to the 1-hour ozone standards. The EPA continues to rely on certain guidance in the General Preamble to implement the 8-hour ozone standards under title I.

<sup>24</sup> Available at [www.epa.gov/ttn/oarpg/t1pgm.html](http://www.epa.gov/ttn/oarpg/t1pgm.html).

that area and whether they would, if implemented individually or collectively, advance the area's attainment date by one year or more.<sup>25</sup>

Any measures that are necessary to meet these requirements that are not already either federally promulgated, part of the state's SIP, or otherwise creditable in SIPs must be submitted in enforceable form as part of a state's attainment plan for the area. CAA section 172(c)(6) requires nonattainment plans to include enforceable emission limitations, and such other control measures, means or techniques (including economic incentives such as fees, marketable permits, and auctions of emission rights), as well as schedules and timetables for compliance, as may be necessary or appropriate to provide for attainment of such standards in such area by the applicable attainment date. *See also* CAA section 110(a)(2)(A).

The purpose of the RACM analysis is to determine whether or not control measures exist that are economically and technically reasonable and that provide emissions reductions that would advance the attainment date for nonattainment areas. The EPA defines RACM as any potential control measure for application to point, area, on-road and non-road emission source categories that: (1) is technologically feasible; (2) is economically feasible; (3) does not cause "substantial widespread and long-term adverse impacts"; (4) is not "absurd, unenforceable, or impracticable"; and (5) can advance the attainment date by at least one year. General Preamble at 13560.

For ozone nonattainment areas classified as moderate or above, CAA section 182(b)(2) also requires implementation of RACT for all major sources of VOC and for each VOC source category for which the EPA has issued a Control Techniques Guidelines (CTG) document. CAA

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<sup>25</sup> *See* Seitz memo and General Preamble at 13560; *see also* "State Implementation Plans; General Preamble for Proposed Rulemaking on Approval of Plan Revisions for Nonattainment Areas," 44 FR 20372 (April 4, 1979) and Memorandum dated December 14, 2000, from John S. Seitz, Director, Office of Air Quality Planning and Standards, "Additional Submission on RACM from States with Severe One-Hour Ozone Nonattainment Area SIPs."

section 182(f) requires that RACT under section 182(b)(2) also apply to major stationary sources of NO<sub>x</sub>. In Severe areas, a major source is a stationary source that emits or has the potential to emit at least 25 tons of VOC or NO<sub>x</sub> per year. CAA section 182(d). Under the 8-hour ozone implementation rule, states were required to submit SIP revisions meeting the RACT requirements of CAA sections 182(b)(2) and 182(f) no later than 27 months after designation for the 8-hour ozone standards (September 15, 2006, for areas designated in April 2004) and to implement the required RACT measures no later than 30 months after that submittal deadline. *See* 40 CFR 51.912(a). The EPA has approved the RACT SIP for the SCAQMD for the 1997 ozone standards, which included rules applicable to the Coachella Valley. *See* 73 FR 76947 (December 18, 2008).

## 2. Control Strategy and RACM Demonstration in the Coachella Valley Ozone Plan

### a. The District's RACM Demonstration

Appendix VI of the 2007 AQMP includes a RACM demonstration covering both the South Coast Air Basin and the Coachella Valley, which focuses on control measures for stationary and area sources. The process to identify RACM involved public meetings to solicit input, evaluation of the EPA's suggested RACM, and evaluation of air emissions rules in other areas (including the San Joaquin Valley, the San Francisco Bay Area, Sacramento, Ventura, Dallas-Fort Worth, the Houston-Galveston area and the Lake Michigan Air Directors Consortium). The District also reevaluated all 82 of its existing rules and regulations. The RACM evaluation process included a summit where CARB technical experts, local government representatives and the public suggested alternative ways to attain air quality standards. More than 200 potential control measures were identified. The District then screened the identified measures and rejected those that would not individually or collectively advance attainment in the

area by at least one year, had already been adopted as rules, or were in the process of being adopted. The remaining measures were evaluated by taking into account baseline inventories, available control technologies, and potential emission reductions as well as whether the measure could be implemented on a schedule that would advance attainment of the 1997 8-hour ozone standards by at least a year.<sup>26</sup>

Based on this analysis, SCAQMD scheduled 16 new or revised stationary source control measures for development and adoption, including revisions to make SCAQMD rules at least as stringent as other California districts' rules and several innovative measures. Since submission of the AQMP in 2007, the SCAQMD has adopted 12 of these rules and submitted them to the EPA for approval into the SIP. Table 4 lists the measures identified in the 2007 AQMP,<sup>27</sup> with citations to the Federal Register notice that incorporates each measure into the SIP, where applicable. These rules are part of the District's enforceable commitment to achieve emissions reductions. However, the District acknowledged that its commitment to adopt any given rule might prove to be infeasible, meaning the control technology may not be available or achievement of the emissions reductions may not be cost effective. In adopting the 2007 AQMP, the SCAQMD Board committed to "substitute any other measures as necessary to make up any emissions reduction shortfall."<sup>28</sup>

<p><b>Table 4. Status of RACM Rules Identified in SCAQMD 2007 AQMP</b></p>
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<sup>26</sup> 2007 AQMP, Appendix VI, page VI-1 and 2.

<sup>27</sup> 2007 AQMP, Tables 4-1, 4-2A and 4-2B.

<sup>28</sup> Attachment A of the 2007 AQMP, SCAQMD Board Resolution 07-9, dated June 1, 2007.

<b>Control measure</b>	<b>Rule No.</b>	<b>Title</b>	<b>Ozone Precursor Controlled</b>	<b>Federal Register notice adopting rule into the SIP</b>
CTS-01	1144	Metalworking fluids and direct-contact lubricants	VOC	76 FR 70888, 11/16/2011
CTS-04	1143	Consumer Paint Thinners and Multi-Purpose Solvents	VOC	76 FR 70888, 11/16/2011
CMB-01	1147	NO <sub>x</sub> reductions from miscellaneous sources	NO <sub>x</sub>	75 FR 46845, 08/04/2010
CMB-03	1111	Further NO <sub>x</sub> reductions from space heaters	NO <sub>x</sub>	75 FR 46845, 08/04/2010
FUG-02	461	Gasoline transfer and dispensing (VOC)	VOC	78 FR 21543, 04/11/2013
FUG-04	1149	Storage Tank and Pipeline Cleaning and Degassing	VOC	74 FR 67821, 12/21/2009
MCS-01	1110.2	Liquid and gaseous fuels—stationary ICEs (NO <sub>x</sub> and VOC)	NO <sub>x</sub> and VOC	74 FR 18995, April 27, 2009
MCS-01	1146	NO <sub>x</sub> from industrial, institutional, commercial boilers, steam generators, and process heaters	NO <sub>x</sub>	79 FR 57442, 09/25/2014
MCS-01	1146.1	NO <sub>x</sub> from small ind, inst, & commercial boilers, steam gens, and process heaters	NO <sub>x</sub>	79 FR 57442, 09/25/2014
MCS-05	1127	Livestock waste (VOC)	VOC	78 FR 30768, 05/23/2013
Measures not yet adopted or not approved in the SIP by EPA				
EGM-01	2301 (proposed)	Emissions reductions from new or redevelopment projects (Indirect Sources)	NO <sub>x</sub> and VOC	No rule associated with this measure. <sup>a</sup>
FLX-02	n/a	Refinery pilot program (VOC)	VOC	No rule associated with this measure.

MOB-05	Title 13 Cal. Code of Regulations § 2622	AB923 LDV high emitter program	NO <sub>x</sub> and VOC	n/a <sup>b</sup>
MOB-06	Title 13 Cal. Code of Regulations § 2622	AB923 MDV high emitter program	NO <sub>x</sub> and VOC	n/a <sup>b</sup>
n/a	2449	SOON program	NO <sub>x</sub>	(proposed approval) 81 FR 12637, 03/10/2016

<sup>a</sup> The District has not finalized Rule 2301.

<sup>b</sup> SCAQMD implements this program through CARB's Enhanced Fleet Modernization Program.  
n/a = not applicable.

The EPA determined that the 2007 AQMP met the RACM requirement for the 1997 8-hour ozone standards in the South Coast Air Basin. *See* 77 FR 12674 (March 1, 2012).<sup>29</sup> CARB submitted a 2012 Air Quality Management Plan (2012 AQMP), developed by the SCAQMD, in February 2013 with additional information about the Coachella Valley, including data and discussion on air quality, pollutant transport, emissions inventories, attainment demonstration, and projections of future air quality.<sup>30</sup> For the 2012 AQMP, the SCAQMD followed a process similar to that used for the 2007 AQMP, which included public meetings to solicit input, evaluation of EPA's suggested RACM, and evaluation of other air agencies' regulations. *See* Appendix VI of the 2012 AQMP. The District states in the 2012 AQMP that "the 2007 AQMP adequately addressed and satisfied the CAA planning requirements for ozone in the Coachella Valley, and this chapter [Chapter 7: Current & Future Air Quality – Desert Nonattainment

<sup>29</sup> More recently, the EPA determined that the South Coast RECLAIM program did not meet RACM for PM<sub>2.5</sub> because it allowed facilities to delay installation of selective catalytic reduction (SCR) to control NO<sub>x</sub> emissions. *See* 81 FR 22025 (April 14, 2016). Only two facilities in Coachella Valley are part of the RECLAIM program and both facilities have an oxidation catalyst and SCR on each gas turbine. The Title V Permits for these facilities are included in the administrative record for this action. Additionally, SCAQMD Rule 2005 requires all emissions sources at any new or relocated RECLAIM facility to apply the best available control technology.

<sup>30</sup> Final Air Quality Management Plan, February 2013, South Coast Air Quality Management District.

Areas] is for information only.” The 2012 AQMP does, however, include a new RACM demonstration. *See* Appendix VI of the 2012 AQMP. It includes new and revised rules for the District since the adoption of the 2007 AQMP. The EPA approved the RACM demonstration in the 2012 AQMP as a revision to the SIP for both the 1-hour and 1997 8-hour ozone standards for the South Coast Air Basin. *See* 79 FR 52526 (September 3, 2014). Many of the new rules have been incorporated into the SIP,<sup>31</sup> some have been proposed by the District but not incorporated into the SIP,<sup>32</sup> and others have yet to be proposed locally.

#### c. Local Jurisdiction RACM Demonstration

With respect to on-road mobile sources, we note that SCAG is the designated metropolitan planning organization (MPO) for a large portion of southern California, including Coachella Valley, and SCAG’s membership includes local jurisdictions within the Coachella Valley. For the 2007 AQMP, SCAG evaluated a list of possible transportation control measures (TCMs) as one element of the larger RACM evaluation for the plan. TCMs are, in general, measures designed to reduce emissions from on-road motor vehicles through reductions in VMT or traffic congestion. SCAG’s TCM development process is described in Appendix IV-C (“Regional Transportation Strategy and Control Measures”) of the 2007 AQMP, pages 49 to 55.

In our final action on the 2007 AQMP for the South Coast Air Basin, we concluded that the evaluation processes undertaken by SCAG were consistent with the EPA’s RACM guidance and found that there were no additional RACM, including no additional TCMs that would advance attainment of the 1997 8-hour ozone standards in the South Coast Air Basin. *See* 76 FR 57872, at 57883 (September 16, 2011) (proposed rule); 77 FR 12674 (March 1, 2012) (final rule). More recently, we came to the same conclusion with respect to RACM and TCMs for the

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<sup>31</sup> For example, CMB-03: Reductions from Commercial Space Heating (Rule 1111) and FUG-02: Emission Reduction from LPG Transfer and Dispensing—Phase II (Rule 1177).

<sup>32</sup> For example, CMB-01: Further NO<sub>x</sub> Reductions from RECLAIM

South Coast in our action on the ozone portion of the 2012 AQMP. *See* 79 FR 29712, at 29720 (May 23, 2014) (proposed rule); 79 FR 52526 (September 3, 2014) (final rule).

While TCMs are being implemented in the upwind South Coast Air Basin area to meet CAA requirements, neither the SCAQMD nor CARB rely on implementation of any TCMs in the Coachella Valley to demonstrate implementation of RACM in the Coachella Valley Ozone Plan. The SCAQMD and CARB justify the absence of TCMs in the Coachella Valley by reference to the significant influence of pollutant transport from the South Coast Air Basin on ozone conditions in the Coachella Valley. We agree that pollutant transport from the South Coast Air Basin is significant, and find that, given the influence of such transport and the minimal and diminishing emissions benefit generally associated with TCMs, no TCM or combination of TCMs implemented in the Coachella Valley would advance the attainment date in the Coachella Valley, and thus, no TCMs are reasonably available for implementation in the Coachella Valley for the purposes of meeting the RACM requirement. Lastly, we note that, while not required for CAA purposes, SCAG's most recent Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) (April 2016) includes a list of projects for the Coachella Valley, some of which represent the types of projects often identified as TCMs, such as traffic signalization projects and bike lane projects. *See* the transportation system project list for Riverside County, attached as an appendix to SCAG's 2016-2044 RTP/SCS (April 2016), available at [http://scagrtpsc.net/Documents/2016/final/f2016RTPSCS\\_ProjectList.pdf](http://scagrtpsc.net/Documents/2016/final/f2016RTPSCS_ProjectList.pdf).

d. The State Strategy RACM Demonstration

CARB has primary responsibility for reducing emissions in California from new and existing on-road and off-road engines and vehicles, motor vehicle fuels, and consumer products.



Given the need for significant emissions reductions from mobile sources to meet the ozone standards in California nonattainment areas, CARB has been a leader in the development of stringent control measures for on-road and off-road mobile sources, fuels and consumer products. Because of this role, the 2007 AQMP identifies CARB's 2007 State Strategy as a key component of the control strategy necessary to attain the 1997 ozone standards. The 2007 State Strategy includes measures to reduce emissions from multiple sectors, including in-use heavy duty trucks, smog check improvements, reformulated gasoline, cleaner off-road equipment, cleaner consumer products, ships, harbor craft and port trucks. *See* 2007 State Strategy, Chapter 5.

CARB developed its 2007 State Strategy after an extensive public consultation process to identify potential SIP measures. From this process, CARB identified and committed to propose 15 new defined measures. These measures focus on cleaning up the in-use fleet as well as increasing the stringency of emissions standards for a number of engine categories, fuels, and consumer products. Many, if not most, of these measures have been adopted or are being proposed for adoption for the first time anywhere in the nation. They build on CARB's already comprehensive program described above that addresses emissions from all types of mobile sources and consumer products, through both regulations and incentive programs.

In adopting the 2007 State Strategy, CARB committed to reducing Coachella Valley NO<sub>x</sub> emissions by 7 tons per day (tpd) and VOC emissions by 2 tpd through the implementation of measures identified in the 2007 State Strategy.<sup>33</sup> However, this proposed action does not rely on the NO<sub>x</sub> and VOC commitments in the 2007 State Strategy, because the 2014 SIP Update shows

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<sup>33</sup> Board Resolution 07-28, CARB, September 27, 2007, page 7, Attachment B.

that the Coachella Valley would meet the NO<sub>x</sub> and VOC attainment and RFP goals, under existing rules received through September 2012.<sup>34</sup>

CARB adopted the 2009 State Strategy Status Report in April 2009. This submittal updated the 2007 State Strategy to reflect its implementation during 2007 and 2008, and also to reflect changes resulting from the adoption of the scoping plan mandated by Assembly Bill 32 that will help reduce ozone during SIP implementation.<sup>35</sup> The update also changes assumptions about economic conditions and the availability of incentive funds.<sup>36</sup> Finally, the 2007 State Strategy was revised to address approvability issues brought up by the EPA.<sup>37</sup>

CARB again revised the state strategy in the 2011 State Strategy Progress Report. While the changes primarily address attainment of the 1997 PM<sub>2.5</sub> standards, the 2011 State Strategy Progress Report also includes an appendix that updates the control measure adoption schedule and revises the emissions estimates to reflect changes made by CARB to the on-road truck and off-road equipment rules in 2010.<sup>38</sup>

We have previously determined that CARB's mobile source control programs constituted RACM for the attainment plan for the 1997 Ozone NAAQS in the South Coast Air Basin. *See* 77 FR 12674 (March 1, 2012). Since then, CARB has adopted additional mobile source control measures including the Advanced Clean Cars program (also known as the Low Emission Vehicle Program III or LEV-III), heavy-duty vehicle idling rules, revisions to CARB's in-use rules for on-road and non-road diesel vehicles, and emissions standards for non-road equipment, cargo handling equipment, and recreational vehicles. *See* 81 FR 39424 (June 18, 2016).

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<sup>34</sup> 2014 SIP Update, page A-1.

<sup>35</sup> 2009 State Strategy Status Report, page v.

<sup>36</sup> 2009 State Strategy Status Report, page v.

<sup>37</sup> 2009 State Strategy Status Report, page 2.

<sup>38</sup> 2011 State Strategy Progress Report at Appendix F ("Revisions to 2007 PM<sub>2.5</sub> and Ozone State Implementation Plan for South Coast Air Basin and Coachella Valley") (March 2011).

### 3. The EPA's Evaluation of the Control Strategy and RACM

For the Coachella Valley in 2017 (the year prior to the attainment year), the emissions inventory shows that nearly all of the locally generated NO<sub>x</sub> emissions (93%) and nearly half of the VOC emissions (48%) derive from mobile sources.<sup>39</sup> Mobile source emissions are well controlled throughout California because of stringent control measures in place for on-road and off-road mobile sources and fuels. *See, e.g.*, 2007 State Strategy, p. 37. Additionally, as noted above, the EPA has already determined CARB's rules in the 2007 State Strategy, as revised in 2009 and 2011, meet RACM, and CARB continues to adopt new and more stringent mobile source rules. In view of the transport of pollutants into the Coachella Valley from the South Coast Air Basin (see discussion at section I.B above) and the extensive control of mobile sources by CARB, we propose to find that the Coachella Valley Ozone Plan provides for implementation of all RACM necessary to demonstrate expeditious attainment of the 1997 8-hour ozone standards in the Coachella Valley, consistent with the applicable requirements of CAA section 172(c)(1) and 40 CFR 51.1105(a)(1) and 51.1100(o)(17).

#### *C. Attainment Demonstration*

##### 1. Requirements for Attainment Demonstrations

CAA section 182(c)(2)(A) requires states with ozone nonattainment areas classified as "Serious" or above to submit plans that demonstrate attainment of the ozone NAAQS as expeditiously as practicable but no later than the specified attainment date. For any ozone nonattainment area classified as serious or above, section 182(c)(2)(A) of the CAA specifically requires the State to submit a modeled attainment demonstration based on a photochemical grid modeling evaluation or any other analytical method determined by the Administrator to be at

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<sup>39</sup> Based on data from Tables A-1 and A-2 of the 2014 SIP Update.

least as effective as photochemical modeling. The attainment demonstration requirement is a continuing applicable requirement for the Coachella Valley under the EPA's anti-backsliding rules that apply once a standard has been revoked. *See* 40 CFR 51.1105(a)(1) and 51.1100(o)(12).

For more detail on the requirements for modeling an 8-hour ozone attainment demonstration, see the Technical Support Document (TSD) for today's proposal. The modeling section of the TSD includes a complete list of applicable modeling guidance documents. These documents describe the components of the attainment demonstration, explain how the modeling and other analyses should be conducted, and provide overall guidance on the technical analyses for attainment demonstrations.

As with any predictive tool, inherent uncertainties are associated with photochemical grid modeling. The EPA's guidance recognizes these limitations and provides recommended approaches for considering other analytical evidence to help assess whether attainment of the NAAQS is likely. This process is called a weight of evidence (WOE) analysis.

The EPA's modeling guidance (updated in 1996, 1999, and 2002) discusses various WOE analyses. This guidance was updated again in 2005 and 2007 for the 1997 8-hour attainment demonstration procedures to include a WOE analysis as an integral part of any attainment demonstration. This guidance strongly recommends that all attainment demonstrations include supplemental analyses beyond the recommended modeling. These supplemental analyses can provide additional information such as data analyses, and emissions and air quality trends, which can help strengthen the conclusion based on the photochemical grid modeling.

## 2. 8-Hour Attainment Demonstration Modeling and Weight of Evidence Analysis in the South Coast 2007 AQMP

### a. Photochemical Grid Modeling Attainment Demonstration Results

#### i. Photochemical Grid Model

The model selected for the 2007 AQMP attainment demonstrations is the Comprehensive Air Quality Model with Extensions (CAMx), version 4.4 (Environ, 2006), using Statewide Air Pollution Research Center-99 (SAPRC-99) gas phase mechanisms (Carter, 2000).<sup>40</sup> The modeling system (including the photochemical model, meteorological inputs, and chemical mechanism) is consistent with the previous advice of outside peer reviewers. CAMx is a state-of-the-art air quality model that can simulate ozone and PM<sub>2.5</sub> concentrations together in a “one-atmosphere” approach for attainment demonstrations. CAMx is designed to integrate the output from both prognostic and diagnostic meteorological models.

#### ii. Episode Selection

Six meteorological episodes from three years are used as the basis for the plan. An earlier modeling effort, contained in SCAQMD’s 2003 Air Quality Management Plan, benefited from the intensive monitoring conducted under the 1997 Southern California Ozone Study (SCOS 1997) where the August 4-7, 1997, episode was the cornerstone of the modeling analysis. One of the primary modeling episodes used in the earlier modeling from August 5-6, 1997, was also selected for this plan. In addition, five episodes that occurred during the Multiple Air Toxics Exposure Study III (MATES-III) sampling program in 2004 (August 7-8) and 2005 (May 21-22,

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<sup>40</sup> Carter, W.P.L., May 8, 2000a. Documentation of the SAPRC-99 chemical mechanism for VOC reactivity assessment. Report to the California Air Resources Board, Contracts 92-329 and 95-308.

July 15-19, August 4-6, and August 27-28) were selected.<sup>41</sup> The TSD for today's proposal provides further information.

### iii. Model Performance

The modeling for the Coachella Valley attainment demonstration uses the same approach used for the South Coast Air Basin attainment demonstration, which was based on an air quality modeling domain that covers the entire South Coast Air Basin, the Coachella Valley, and much of southern California. Model performance was evaluated in three zones in the South Coast Basin: the San Fernando Valley; the eastern San Gabriel, Riverside and San Bernardino Valleys; and Los Angeles and Orange County. Normalized Gross Bias, Normalized Gross Error, and Peak Prediction Accuracy were determined for each area. Although not a requirement for determining acceptable model performance, the performance statistics were compared to the EPA performance goals presented in guidance documents. The performance goals for Normalized Gross Error and Peak Prediction Accuracy were met in the eastern San Gabriel, Riverside and San Bernardino Valleys. In general, the statistic for bias (Normalized Gross Bias) tends to be negative, indicating that the model tends to slightly under-predict ozone. Based on the analysis, the SCAQMD concludes that model performance is acceptable for this application.

### b. Modeling Approaches for the Coachella Valley Attainment Demonstration

CAMx simulations were conducted for the base year 2002, and future-year 2017 baseline and controlled emissions.<sup>42</sup> The ozone attainment demonstration relies on the use of site-specific relative response factors (RRFs) being applied to the 2002 weighted design values. The RRFs are determined from the future year controlled and the 2002 base year simulations. The initial

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<sup>41</sup> Final Report, Multiple Air Toxics Exposure Study in the South Coast Air Basin (MATES-III), SCAQMD, September 2008.

<sup>42</sup> Future year controlled emissions were estimated from the baseline emissions using the CEPA control factors for the simulations, are given in Table V-4-4 of the 2007 South Coast AQMP, Appendix V.

screening for station days to be included in the attainment demonstration included the following criteria: (1) Having an observed concentration equaling or exceeding 85 parts per billion (ppb), and (2) a simulation predicted base year (1997, 2004 or 2005) concentration over 60 ppb.

Additional criteria were added to the selection process as the simulations were evaluated. A minimum of five episode days are recommended to determine the site specific RRF. The TSD for today's action has more information regarding the rationale for our proposed approval of the Coachella Valley Ozone Plan modeling.

#### c. Results of Modeling

The attainment demonstration included in the 2007 AQMP indicates that the Coachella Valley will attain the federal 1997 8-hour ozone standards by the proposed attainment date of June 15, 2019. The 2007 AQMP projects the Coachella Valley air monitoring stations of Palm Springs and Indio to have 8-hour ozone design values of 75.9 ppb and 66.2 ppb respectively in the year 2017.<sup>43</sup> More recent modeling in the 2012 AQMP, as well as recent monitoring data, shows attainment by the 2018 attainment year. See the TSD for this action for more information.

#### d. Transport from the South Coast Air Basin

The South Coast Air Basin's continued progress toward meeting the 1997 ozone NAAQS is critical to the Coachella Valley's ability to attain the 1997 ozone standards. The Coachella Valley is downwind of the South Coast Air Basin, which is regulated by the SCAQMD. The 2007 AQMP states, "pollutant transport from the South Coast Air Basin to the Coachella Valley is the primary cause of its ozone nonattainment status." The plan cites several studies that confirm the transport between the two air basins.<sup>44</sup>

### 3. The EPA's Evaluation and Proposed Conclusions on the Modeling Demonstration

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<sup>43</sup> 2007 AQMP, Appendix V, page V-4-52, Table V-4-17.

<sup>44</sup> See footnote 6.

We are proposing to approve an attainment date of June 15, 2019, which reflects a 2018 attainment year. This is based on our evaluation of the air quality modeling analyses in the 2007 AQMP and our WOE analysis. The WOE analysis considered the attainment demonstration from the 2012 AQMP and more recent ambient air quality monitoring data that were not available at the time SCAQMD performed the attainment modeling. The basis for our proposed approval is discussed in more detail in the TSD. The modeling shows significant reductions in ozone from the base period. The most recent ambient air quality data that we have reviewed indicate that the area is on track to attain the 1997 8-hour ozone standards by 2018.

Based on the analysis above and in the TSD, the EPA proposes to find that the air quality modeling in the 2007 AQMP provides an adequate basis for the RACM, RFP and attainment demonstrations in the Coachella Valley Ozone Plan, and is consistent with the applicable requirements of CAA section 182(c)(2)(a) and 40 CFR 51.1105(a)(1) and 51.1100(o)(12).

#### *D. Rate of Progress and Reasonable Further Progress Demonstrations*

##### *1. Rate of Progress*

###### *a. Requirements*

For areas classified as moderate or above, Section 182(b)(1) requires a SIP revision providing for rate of progress (ROP), defined as a one time, 15% actual VOC emission reduction during the six years following the baseline year 1990, or an average of 3% per year. For areas designated serious nonattainment or above, no further action is necessary if the area fulfilled its ROP requirement for the 1-hour standards (from 1990–1996). As the EPA explained in the 1997 Ozone Implementation Rule, 69 FR 23980 (October 27, 2004), for areas that did not meet the 15% ROP reduction for the 1-hour ozone standards, a state may notify the EPA that it wishes to rely on a previously submitted SIP (for the 1-hour ozone standards), or it may elect to submit a



new or revised SIP (for the 1997 ozone standards) addressing the 15% ROP reduction. The ROP demonstration requirement is a continuing applicable requirement for the Coachella Valley under the EPA's anti-backsliding rules that apply once a standard has been revoked. *See* 40 CFR 51.1105(a)(1) and 51.1100(o)(4).

The CAA outlines and EPA guidance details the method for calculating the requirements for the 1990-1996 period. Section 182(b)(1) requires that reductions: (1) be in addition to those needed to offset any growth in emissions between the base year and the milestone year; (2) exclude emission reductions from four prescribed federal programs (*i.e.*, the federal motor vehicle control program, the federal Reid vapor pressure (RVP) requirements, any RACT corrections previously specified by the EPA, and any inspection and maintenance (I/M) program corrections necessary to meet the basic I/M level); and (3) be calculated from an "adjusted" baseline relative to the year for which the reduction is applicable.

The adjusted base year inventory excludes the emission reductions from fleet turnover between 1990 and 1996 and from federal RVP regulations promulgated by November 15, 1990, or required under section 211(h) of the Act. The net effect of these adjustments is that states are not able to take credit for emissions reductions that would result from fleet turnover of current federal standard cars and trucks, or from already existing federal fuel regulations. However, the SIP can take full credit for the benefits of any new (*i.e.*, post-1990) vehicle emissions standards, as well as any other new federal or state motor vehicle or fuel program that will be implemented in the nonattainment area, including Tier 1 exhaust standards, new evaporative emissions standards, reformulated gasoline, enhanced I/M, California low emissions vehicle program, transportation control measures, etc.

While a SIP revision for attainment of the 1-hour ozone standards was submitted for the Southeast Desert area (*i.e.*, the Coachella Valley and Western Mojave Desert areas), we have not approved the ROP plan for the reduction of VOCs. We provided notice that the Southeast Desert has attained the 1-hour standards on April 15, 2015. *See* 80 FR 20166 (April 15, 2015). Per 40 CFR 51.1118, the RFP requirement (including the 15% ROP requirement for VOCs) no longer applies to the 1-hour ozone standards for the Southeast Desert area. Although the ROP provision is a one-time requirement, it remains in effect for the 1997 8-hour ozone standards. Therefore, the Coachella Valley SIP must demonstrate a 15% ROP for VOC reductions by 2008, from the 2002 baseline.

**b. ROP Demonstration in the State Submittal**

The 2014 SIP Update incorporates the ROP demonstration as an element of the RFP demonstration. We note that this approach is valid, but different from the organization of this notice, where we first, and separately, assess the ROP demonstration and then assess the RFP demonstration. *See* section IV.D.2 for the RFP assessment. VOC emissions from the RFP tables for the Coachella Valley (*see* Table C-1 in the 2014 SIP Update), were used to create Table 5 below. The revised 15% ROP VOC demonstration uses a 2002 average summer weekday emissions inventory as the base year inventory and addresses 2002-2008. Based on the progress of the VOC emissions reductions from 2002 to 2008, the State concluded the Coachella Valley met the ROP requirement for the 15% VOC reduction.

<b>Table 5. 15% Rate-of-Progress Demonstration for VOC Emissions in the Coachella Valley<sup>a</sup></b>	
<b>VOC Emissions</b>	<b>Coachella (tpsd)</b>
1. 2002 baseline inventory	22.7

2. 2008 remaining emissions	17.6
3. 2008 goal (remaining emissions after 15% ROP Reduction required from 2002 baseline)	19.3
4. ROP reduction achieved by 2008 (Compare Line 2 to Line 7)	Yes

<sup>a</sup> Source: 2014 SIP Update, Table C-1.

## *2. Reasonable Further Progress*

### *a. Requirements*

CAA sections 172(c)(2) and 182(b)(1) require plans for nonattainment areas to provide for RFP. RFP is defined in section 171(1) as “such annual incremental reductions in emissions of the relevant air pollutant as are required by this part or may reasonably be required by the Administrator for the purpose of ensuring attainment of the applicable [NAAQS] by the applicable date.” CAA section 182(c)(2)(B) requires ozone nonattainment areas classified as serious or higher to submit no later than 3 years after designation for the 8-hour ozone standards an RFP SIP providing for an average of 3% per year of VOC and/or NO<sub>x</sub> emissions reductions for (1) the 6-year period immediately following the baseline year; and (2) all remaining 3-year periods after the first 6-year period out to the area’s attainment date. The RFP requirement is a continuing applicable requirement for the Coachella Valley under the EPA’s anti-backsliding rules that apply once a standard has been revoked. *See* 40 CFR 51.1105(a)(1) and 51.1100(o)(4).

CAA section 182(c)(2)(C) allows for the substitution of NO<sub>x</sub> emission reductions in place of VOC reductions to meet the RFP requirements. According to the EPA’s NO<sub>x</sub> Substitution Guidance,<sup>45</sup> the substitution of NO<sub>x</sub> reductions for VOC reductions must be done on a percentage basis, rather than a straight ton-for-ton exchange. There are two steps for substituting NO<sub>x</sub> for VOC. First, an equivalency demonstration must show that the cumulative RFP emission reductions are consistent with the NO<sub>x</sub> and VOC emission reductions determined in the ozone

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<sup>45</sup> EPA Office of Air Quality Planning and Standards, “NO<sub>x</sub> Substitution Guidance,” December 1993.

attainment modeling demonstration. Second, specified reductions in NO<sub>x</sub> and VOC emissions should be accomplished in the interim period between the 2002 base year and the attainment date, consistent with the continuous RFP emission reduction requirement.

*b. RFP Demonstration in the State Submittal*

The 2014 SIP Update contains emissions estimates for the baseline, milestone and attainment years, and additional discussion of the RFP demonstration. *See* page 5 and Table C-1 in Appendix C. Table 6 below shows data from the RFP demonstration, with additional rows based on information provided by CARB. The 2014 SIP Update uses NO<sub>x</sub> substitution beginning in milestone year 2014 to meet VOC emission targets. For the Coachella Valley, the State concluded that RFP demonstration meets the applicable requirements for each milestone year as well as the attainment year.

<b>Table 6. Calculation of RFP Demonstrations for Coachella Valley<sup>a</sup></b>						
<b>VOC Emission Calculations (tpd)</b>	<b>2002</b>	<b>2008</b>	<b>2011</b>	<b>2014</b>	<b>2017</b>	<b>2018</b>
1. 2002 Baseline VOC	22.7	n/a	n/a	n/a	n/a	n/a
2. Non-creditable CA MVCP/RVP adjustments	n/a	1.1	1.5	1.8	1.9	2.0
3. RACT Corrections	0	0	0	0	0	0
4. Adjusted 2002 baseline VOC inventory (2002 Baseline VOC – Line 2 – Line 3)	n/a	21.6	21.2	20.9	20.8	20.7
5. RFP Commitment for VOC reductions from new measures	n/a	0	0	0	0	0
6. Future Year VOC with existing and proposed measures	n/a	17.6	15.0	15.8	15.8	15.9
7. Required VOC % change since previous milestone year, relative to 2002	n/a	15%	9%	9%	9%	3%
8. Required VOC reduction from 2002 adjusted baseline	n/a	15%	24%	33%	42%	45%
9. Target VOC Levels <sup>b</sup>	n/a	18.4	16.4	14.7	13.3	12.8
10. Apparent VOC Shortfall (Line 6 - Line 9)	n/a	-0.8	-1.3	1.2	2.6	3.2
11. Apparent % VOC shortfall (Line 10 ÷ Line 4)	n/a	-3.7%	-6.4%	5.6%	12.7%	15.3%

12. VOC shortfall previously provided by NO <sub>x</sub> substitution % (Line 13 of prior milestone year, or 0 if negative)	n/a	0	0	0	5.6%	12.7%
13. Actual VOC shortfall (Line 11 - Line 12)	n/a	-3.7%	-6.4%	5.6%	7.1%	2.5%
<b>NO<sub>x</sub> Emission Calculations (tpd)</b>	<b>2002</b>	<b>2008</b>	<b>2011</b>	<b>2014</b>	<b>2017</b>	<b>2018</b>
15. Baseline NO <sub>x</sub> inventory	43.3	31.0	23.8	22.0 <sup>c</sup>	18.9 <sup>c</sup>	17.8 <sup>c</sup>
16. Non-creditable CA MVCP/RVP adjustments	n/a	1.6	2.0	2.2	2.3	2.3
17. Adjusted 2002 baseline NO <sub>x</sub> inventory (Line 15 2002 baseline - Line 16)	n/a	41.7	41.3	41.1	41.0	40.9
18. RFP commitment for NO <sub>x</sub> reductions from new measures	n/a	0	0	0	0	0
19. Calculated NO <sub>x</sub> creditable reductions since 2002 (Line 17 - Line 18)	n/a	41.7	41.3	41.1	41.0	40.9
20. Change in NO <sub>x</sub> since 2002 (Line 19 - Line 15)	n/a	10.6	17.5	19.1	22.1	23.1
21. Calculated % NO <sub>x</sub> reductions since 2002 (Line 20 ÷ Line 19)	n/a	25.6%	42.3%	46.5%	53.9%	56.5%
22. NO <sub>x</sub> previously used for VOC shortfall by NO <sub>x</sub> substitution % (from Line 12)	n/a	0	0	0	5.6%	12.7%
23. NO <sub>x</sub> substitution needed for VOC shortfall % (Same as Line 13, or 0 if Line 9 < 0)	n/a	0.0%	0.0%	5.6%	7.1%	2.5%
24. Forecasted % NO <sub>x</sub> reduction surplus (Line 21 – Line 22 – Line 23)	n/a	25.6%	42.3%	40.9%	41.2%	41.3%
25. RFP achieved?	n/a	Yes	Yes	Yes	Yes	Yes

<sup>a</sup> Source: 2014 SIP Update, Table C-1.

<sup>b</sup> Target VOC levels for 2008 = (1-Line 8) x (Line 4). In subsequent years, Target VOC = [(prior year Line 9 + prior year Line 2 - current year line 2) x (1 - current year line 7)].

<sup>c</sup> Estimated emissions include an additional 1 tpd safety margin for transportation conformity budget.

Note: Because of rounding conventions, values in table may not reflect the exact calculated quantity from the underlying numbers.

### 3. Proposed Action on the ROP and RFP Demonstrations

Based on our review of the ROP calculations in the 2014 SIP Update, summarized in Table 5 above, we conclude that the state has demonstrated that sufficient emission reductions have been achieved to meet the ROP requirements in 2008. And as shown in Table 6, the South Coast 2007 8-hour Ozone SIP provides for RFP in each milestone year, consistent with applicable CAA requirements and EPA guidance. We therefore propose to approve the ROP and

RFP demonstrations under sections 182(b)(1) and 182(c)(2) of the CAA and 40 CFR 51.1105(a)(1) and 51.1100(o)(4).

### *E. Motor Vehicle Emissions Budgets for Transportation Conformity*

#### 1. Requirements for Motor Vehicle Emissions Budgets

CAA section 176(c) requires federal actions in nonattainment and maintenance areas to conform to the goals of SIPs. This means that such actions will not: (1) cause or contribute to violations of a NAAQS, (2) worsen the severity of an existing violation, or (3) delay timely attainment of any NAAQS or any interim milestone.

Actions that involve Federal Highway Administration (FHWA) or Federal Transit Administration (FTA) funding or approval are subject to the EPA's transportation conformity rule, which is codified in 40 CFR part 93, subpart A. Under this rule, metropolitan planning organizations (MPOs) in nonattainment and maintenance areas coordinate with state and local air quality and transportation agencies, the EPA, FHWA, and FTA to demonstrate that an area's RTP and transportation improvement programs (TIP) conform to the applicable SIP. This demonstration is typically done by showing that estimated emissions from existing and planned highway and transit systems are less than or equal to the motor vehicle emissions budgets (MVEBs or budgets) contained in the SIP. An attainment, RFP, or maintenance SIP establishes MVEBs for the attainment year, each required RFP year or last year of the maintenance plan, as appropriate. MVEBs are generally established for specific years and specific pollutants or precursors. Ozone attainment and RFP plans establish MVEBs for NO<sub>x</sub> and VOC. *See* 40 CFR 93.102(b)(2)(i).

Before an MPO may use MVEBs in a submitted SIP, the EPA must first either determine that the MVEBs are adequate or approve the MVEBs. In order for us to find the MVEBs

adequate and approvable, the submittal must meet the conformity adequacy requirements of 40 CFR 93.118(e)(4) and (5) and be approvable under all pertinent SIP requirements. To meet these requirements, the MVEBs must be consistent with the approvable attainment and RFP demonstrations and reflect all of the motor vehicle control measures contained in the attainment and RFP demonstrations. *See* 40 CFR 93.118(e)(4)(iii), (iv) and (v). For more information on the transportation conformity requirements and applicable policies on MVEBs, please visit our transportation conformity Web site at: <https://www.epa.gov/state-and-local-transportation>.

The EPA's process for determining adequacy of a MVEB consists of four basic steps: (1) providing public notification of a SIP submission; (2) providing the public the opportunity to comment on the MVEB during a public comment period and responding to any comments that are submitted; (3) reviewing the submitted SIP to determine if it meets the adequacy criteria; and, (4) making a finding of adequacy or inadequacy. *See* 40 CFR 93.118.

## 2. MVEBs in the Coachella Valley Ozone Plan

The 2007 AQMP did not propose budgets for transportation conformity for the Coachella Valley. CARB submitted the 2008 Early Progress Plan, an amendment to the SIP, to establish MVEBs for many areas of California including the Coachella Valley.<sup>46</sup> Using EMFAC2007 (the 2007 version of the Emissions FACTor model), CARB set the 2012 MVEBs at 7 tpd for VOCs and 26 tpd for NO<sub>x</sub>. We found the MVEB in the 2008 Early Progress Plan for the Coachella Valley to be adequate for transportation conformity purposes.<sup>47</sup> *See* 73 FR 25694 (April 16, 2008).

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<sup>46</sup> Early Progress Plans Demonstrating Progress Toward Attaining the 8-hour National Air Quality Standards for Ozone and Setting Transportation Conformity Budgets for Ventura County, Antelope Valley - Western Mojave Desert, Coachella Valley, Eastern Kern County, Imperial County, Revised: February 27, 2008, Release Date: February 27, 2008.

<sup>47</sup> Letter dated April 16, 2008 from Deborah Jordan to James Goldstene, California Air Resources Board, RE: Adequacy Status of Coachella Valley 8-hour Ozone Early Progress Plan Motor Vehicle Emissions Budgets.

The 2014 SIP Update includes updated MVEBs.<sup>48</sup> As noted in Section IV.B.2 of this notice, the MVEBs were estimated using EMFAC2011, and the latest planning assumptions from SCAG, including *Amendment No. 1 to the 2012 – 2035 Regional Transportation Plan and Amendment No. 13-4 to the Federal Transportation Improvement Program*.<sup>49</sup> The emissions estimate also includes off-model adjustments to EMFAC2011 to account for the Advanced Clean Car regulations adopted by CARB and included in the SIP. *See* 81 FR 39424 (June 16, 2016).

The MVEBs are the projected on-road mobile source VOC and NO<sub>x</sub> emissions in the Coachella Valley for baseline, milestone and attainment years. These budgets, shown in Table 7, include a 1 tpd safety margin, as allowed by the conformity rule. *See* 40 CFR 93.124(a).

<b>Table 7. Coachella Valley Motor Vehicle Emissions Budgets in the 2014 SIP Update (tpd, average summer weekday)<sup>a</sup></b>						
	<b>NO<sub>x</sub></b>			<b>VOC</b>		
	<b>2014</b>	<b>2017</b>	<b>2018</b>	<b>2014</b>	<b>2017</b>	<b>2018</b>
On-Road Inventory	14.79	11.39	10.74	3.72	3.07	2.93
Safety Margin	1	1	1	1	1	1
MVEBs <sup>b</sup>	16	13	12	5	5	4

<sup>a</sup> Source: 2014 SIP Update, Appendix D, Table D-1.

<sup>b</sup> Rounded up to the nearest ton.

### 3. Proposed Action on the Budgets

As part of our review of the budgets' approvability, we have evaluated the revised budgets using our adequacy criteria in 40 CFR 93.318(e)(4) and (5). We found that the 2017 and 2018 budgets meet each adequacy criterion. We have completed our review of the 2014 SIP Update and are proposing to approve the SIP's attainment and RFP demonstrations. We have also reviewed the proposed budgets submitted with the 2014 SIP Update and have found that the 2017 and 2018 budgets are consistent with the attainment and RFP demonstrations, were based

<sup>48</sup> 2014 SIP Update, Table D-1.

<sup>49</sup> *See* <http://rtpscs.scag.ca.gov/Pages/Amendment-1.aspx>.



on control measures that have already been adopted and implemented, and meet all other applicable statutory and regulatory requirements including the adequacy criteria in 40 CFR 93.118(e)(4) and (5). Therefore, we are proposing to approve the 2017 and 2018 budgets as shown in Table 7.<sup>50</sup> Once these budgets are found adequate or are approved, the budgets for the 2008 early progress plan for 2012 will no longer be used in transportation conformity determinations. If finalized as proposed, the U.S. Department of Transportation and SCAG (the metropolitan planning organization for the area) would be required to use the new budgets in transportation conformity determinations.

#### *F. Vehicle Miles Travelled Emissions Offset Demonstration*

##### 1. Requirements for a VMT Emissions Offset Demonstration

CAA section 182(d)(1)(A) requires a state with areas classified as “Severe” or “Extreme” to “submit a revision that identifies and adopts specific enforceable transportation control strategies (TCSs) and TCMs to offset any growth in emissions from growth in VMT or numbers of vehicle trips in such area.” Herein, we refer to the SIP requirement as the “VMT emissions offset requirement,” and the SIP revision intended to demonstrate compliance with the VMT emissions offset requirement as the “VMT emissions offset demonstration.” The VMT emissions offset requirement is a continuing applicable requirement for the Coachella Valley under the EPA’s anti-backsliding rules that apply once a standard has been revoked. *See* 40 CFR 51.1105(a)(1) and 51.1100(o)(10).

CAA section 182(d)(1)(A) also includes two additional elements requiring that the SIP include: (1) TCSs and TCMs as necessary to provide (along with other measures) the reductions needed to meet the applicable RFP requirement, and (2) include strategies and measures to the

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<sup>50</sup> Although the 2014 SIP Update contained MVEBs for 2014, 2017, and 2018, MVEBs for 2014 are no longer relevant for conformity analyses since that year has passed.

extent needed to demonstrate attainment. As noted above, the first element of CAA section 182(d)(1)(A) requires that areas classified as “Severe” or “Extreme” submit a SIP revision that identifies and adopts TCSs and TCMs sufficient to offset any growth in emissions from growth in VMT or the number of vehicle trips.

In response to the Court’s decision in *Association of Irrigated Residents v. EPA*,<sup>51</sup> we issued a memorandum titled *Guidance on Implementing Clean Air Act Section 182(d)(1)(A): Transportation Control Measures and Transportation Control Strategies to Offset Growth in Emissions Due to Growth in Vehicle Miles Travelled* (August 2012 Guidance).<sup>52</sup> The August 2012 Guidance discusses the meaning of the terms TCSs and TCMs, and recommends that both TCSs and TCMs be included in the calculations made for the purpose of determining the degree to which any hypothetical growth in emissions due to growth in VMT should be offset. Generally, TCS is a broad term that encompasses many types of controls including, for example, motor vehicle emission limitations, I/M programs, alternative fuel programs, other technology-based measures, and TCMs, that would fit within the regulatory definition of “control strategy.” *See, e.g.*, 40 CFR 51.100(n). TCM is defined at 40 CFR 51.100(r) to mean “any measure that is directed toward reducing emissions of air pollutants from transportation sources,” including, but not limited to, measures listed in CAA section 108(f), and generally refers to programs intended to reduce the VMT, the number of vehicle trips, or traffic congestion, such as programs for improved public transit, designation of certain lanes for passenger buses and high-occupancy vehicles, trip reduction ordinances, and similar measures.

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<sup>51</sup> 632 F.3d. 584, at 596-597 (9th Cir. 2011), reprinted as amended on January 27, 2012, 686 F.3d 668, further amended February 13, 2012 (ruling additional TCMs are required whenever vehicle emissions are projected to be higher than they would have been had VMT not increased, even when aggregate vehicle emissions are actually decreasing).

<sup>52</sup> Memorandum dated August 30 2012 from Karl Simon, Director, Transportation and Climate Division, Office of Transportation and Air Quality, to Carl Edlund, Director, Multimedia Planning and Permitting Division, EPA Region 6, and Deborah Jordan, Director, Air Division, EPA Region 9.

The August 2012 guidance also explains how states may demonstrate that the VMT emissions offset requirement is satisfied in conformance with the Court's ruling. It recommends states estimate emissions for the nonattainment area's base year and the attainment year. One emission inventory is developed for the base year, and three different emissions inventory scenarios are developed for the attainment year. Two of these scenarios would represent hypothetical emissions scenarios that would provide the basis to identify the "growth in emissions" due solely to the growth in VMT, and one that would represent projected actual motor vehicle emissions after fully accounting for projected VMT growth and offsetting emissions reductions obtained by all creditable TCSs and TCMs. The August 2012 guidance contains specific details on how states might conduct the calculations.

The base year on-road VOC emissions inventory should be based on VMT in that year and it should reflect all enforceable TCSs and TCMs in place in the base year. This would include vehicle emissions standards, state and local control programs such as I/M programs or fuel rules, and any additional implemented TCSs and TCMs that were already required by or credited in the SIP as of the base year.

The first of the emissions calculations for the attainment year would be based on the projected VMT and trips for that year, and assume that no new TCSs or TCMs beyond those already credited in the base year inventory have been put in place since the base year. This calculation demonstrates how emissions would hypothetically change if no new TCSs or TCMs were implemented, and VMT and trips were allowed to grow at the projected rate from the base year. This estimate would show the potential for an increase in emissions due solely to growth in VMT and trips, representing a no-action scenario. Emissions in the attainment year in this scenario may be lower than those in the base year due to fleet turnover to lower-emitting

vehicles. Emissions may also be higher if VMT and/or vehicle trips are projected to sufficiently increase in the attainment year.

The second of the attainment year emissions calculations would also assume that no new TCSs or TCMs beyond those already credited have been put in place since the base year, but would also assume no growth in VMT and trips between the base year and attainment year. Like the no-action attainment year estimate described above, emissions in the attainment year may be lower than those in the base year due to fleet turnover, but the emissions would not be influenced by any growth in VMT or trips. This emissions estimate, the VMT offset ceiling scenario, would reflect the maximum attainment emissions that should be allowed to occur under the statute as interpreted by the Court because it shows what would happen under a scenario in which no offsetting TCSs or TCMs have yet been put in place and VMT and trips are held constant during the period from the area's base year to its attainment year.

These two hypothetical status quo estimates are necessary steps in identifying target emission levels. These levels determine whether further TCMs or TCSs beyond those that have been adopted and implemented are needed to fully offset any increase in emissions due solely to VMT and vehicle trips identified in the no action scenario.

The third calculation incorporates the emissions that are actually expected to occur in the area's attainment year after taking into account reductions from all enforceable TCSs and TCMs that in reality were put in place after the baseline year. This estimate would be based on the VMT and trip levels expected to occur in the attainment year (*i.e.*, the VMT and trip levels from the first estimate) and all of the TCSs and TCMs expected to be in place and for which the SIP will take credit in the area's attainment year, including any TCMs and TCSs put in place since the base year. This represents the projected actual (attainment year) scenario. If this emissions

estimate is less than or equal to the emissions ceiling that was established in the second of the attainment year calculations, the TCSs or TCMs for the attainment year would be sufficient to fully offset the identified hypothetical growth in emissions.

If the projected actual attainment year emissions are greater than the VMT offset ceiling established in the second of the attainment year emissions calculations even after accounting for post-baseline year TCSs and TCMs, the state would need to adopt and implement additional TCSs or TCMs. To meet the VMT offset requirement of section 182(d)(1)(A) as interpreted by the Court, the additional TCSs or TCMs would need to offset the growth in emissions and bring the actual emissions down to at least the same level as the attainment year VMT offset ceiling estimate.

## 2. The Coachella Valley VMT Emissions Offset Demonstration

The Coachella Valley VMT Offset demonstration is contained in Appendix E of the 2014 SIP Update. The State used EMFAC2011,<sup>53</sup> an EPA-approved motor vehicle emissions model for California, to estimate on-road emissions. The model calculates emissions from two combustion processes (*i.e.*, running exhaust and start exhaust) and four evaporative processes (*i.e.*, hot soak, running losses, diurnal losses, and resting losses). It combines trip-based VMT data from the regional transportation planning agencies (*i.e.*, SCAG), starts data based on household travel surveys, and vehicle population data from the California Department of Motor Vehicles. These sets of data are combined with corresponding emission rates to calculate emissions.

Emissions from running exhaust, start exhaust, hot soak, and running losses are a function of how much a vehicle is driven. As such, emissions from these processes are directly

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<sup>53</sup> More recently, the EPA approved EMFAC2014 as the model for estimating on-road emissions; however, that approval allowed the continued use of EMFAC2011 until December 14, 2017. *See* 80 FR 77337

related to VMT and vehicle trips, and the State included emissions from them in the calculations that provide the basis for the revised Coachella Valley VMT emissions offset demonstration. The 2014 SIP Update (*see* page E-3) did not include emissions from resting loss and diurnal loss processes in the analysis because such emissions are related to vehicle population, rather than VMT or vehicle trips, and thus are not part of “any growth in emissions from growth in *vehicle miles traveled or numbers of vehicle trips* in such area” (emphasis added) under CAA section 182(d)(1)(A).

The VMT emissions offset demonstration also includes the previously described three different attainment year scenarios (*i.e.*, no action, VMT offset ceiling, and projected actual) for 2018. The State’s selection of 2018 is appropriate given that the 2014 SIP Update demonstrates attainment by the applicable attainment date of June 15, 2019 based on the 2018 controlled emissions inventory. Table 8 summarizes the emissions estimate for the base year and the three scenarios discussed in Section IV.G.1.b.

<b>Table 8. VMT Emissions Offset Inventory Scenarios and Results for 1997 8-Hour Ozone Standards<sup>a</sup></b>						
<b>Scenario</b>	<b>VMT</b>		<b>Starts</b>		<b>Controls</b>	<b>VOC Emissions</b>
	<b>Year</b>	<b>1000 miles/day</b>	<b>Year</b>	<b>1000/day</b>	<b>Year</b>	<b>tpd</b>
Base Year	2002	10,293	2002	1,248	2002	8
No Action	2018	14,329	2018	10,640	2002	4
VMT Offset Ceiling	2002	14,329	2002	7,935	2002	3
Projected Actual	2018	64,709	2018	10,640	2018	2

<sup>a</sup> Source: 2014 SIP Update, Appendix E.

For the base year scenario, CARB ran the EMFAC2011 model for the 2002 base year using VMT and starts data corresponding to those years. As shown in Table 8, the 2014 SIP Update estimates Coachella Valley VOC emissions to be 8 tpd in 2002.

For the no-action scenario, the State first identified the on-road motor vehicle control programs (*i.e.*, TCSs or TCMs) put in place since the base year and incorporated into EMFAC2011. Then, CARB ran EMFAC2011 with the VMT and starts data corresponding to the applicable attainment year (*i.e.*, 2018 for the 1997 8-hour ozone standards) without the emissions reductions from the on-road motor vehicle control programs put in place after the base year. Thus, the no action scenario reflects the hypothetical VOC emissions that would occur in the attainment year in the nonattainment area if CARB had not put in place any additional TCSs or TCMs after 2002. As shown in Table 8, CARB estimates no action VOC emissions for Coachella Valley to be 4 tpd in 2018.

For the VMT offset ceiling scenario, the State ran the EMFAC2011 model for the attainment year but with VMT and starts data corresponding to base year values. Like the no-action scenario, the EMFAC2011 model was adjusted to reflect VOC emissions levels in the attainment year without the benefits of the on-road motor vehicle control programs implemented after the base year. Thus, the VMT offset ceiling scenario reflects hypothetical VOC emissions if the State had not put in place any TCSs or TCMs after the base year and if there had been no growth in VMT or vehicle trips between the base year and the attainment year. As shown in Table 8, CARB estimates VMT offset ceiling VOC emissions to be 3 tpd in 2018.

The hypothetical growth in emissions due to growth in VMT and trips can be determined from the difference between the VOC emissions estimates under the no action scenario and the corresponding estimate for the VMT offset ceiling scenario. Based on the values in Table 9, the

hypothetical growth in emissions due to growth in VMT and trips in the Coachella Valley would have been 1 tpd (*i.e.*, 4 tpd minus 3 tpd) for the purposes of the revised VMT emissions offset demonstration for the 8-hour ozone standards. This hypothetical difference establishes the level of emissions caused by growth in VMT that need to be offset by the combination of post-baseline year TCMs and TCSs and any necessary additional TCMs and TCSs.

For the projected actual scenario calculation, the State included the emissions benefits from TCSs and TCMs<sup>54</sup> put in place since the base year. The most significant State on-road and fuels measures providing reductions during the 2002 to 2018 timeframe and relied upon for the VMT emissions offset demonstration include Low Emission Vehicles II and Zero Emissions Vehicle standards, California Reformulated Gasoline Phase 3, and Cleaner In-Use Heavy-Duty Trucks. Some of these measures were adopted prior to 2002, but all or part of the implementation occurred after 2002.<sup>55</sup> State measures adopted since 2007, as part of the 2009 State Strategy Status Report, and the associated reductions are also described in the IV.B.2.d of this notice. The 2014 SIP Update provides a list of CARB rules for mobile sources, since 1990 through the plan's development, in Table E-4.

### 3. The EPA's Evaluation of the VMT Emissions Offset Demonstration

The Coachella Valley VMT emissions offset demonstrations established 2002 as the base year for the purpose of the VMT emissions offset demonstration for the 1997 8-hour ozone standards. The base year for VMT emissions offset demonstration purposes should generally be the same base year used for nonattainment planning purposes. In today's action, the EPA is proposing to approve the 2002 base year inventory for Coachella Valley for the purposes of the

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<sup>54</sup> The 2014 SIP Update states, "there are no TCMs in the SIP for the Coachella Valley and Western Mojave Desert because upwind emissions from the South Coast Air Basin and Ventura County largely influence air quality in both the Coachella Valley and Western Mojave Desert. TCMs have been implemented by the SCAG in those upwind areas." (Appendix E, p. E-3)

<sup>55</sup> Appendix E of the SIP Update contains a full list of the TCSs adopted by the state since 1990.



1997 8-hour ozone standards. Thus, CARB's selection of 2002 as the base year for the VMT emissions offset demonstration for the 1997 8-hour ozone standards is appropriate.

As shown in Table 8, the results from these calculations establish projected actual attainment-year VOC emissions of 2 tpd in the Coachella Valley for the 1997 8-hour standards demonstration. By comparing these values against the corresponding VMT offset ceiling value, we can determine whether additional TCMs or TCSs would need to be adopted and implemented to offset any increase in emissions due solely to VMT and trips. Because the projected actual emissions are less than the corresponding VMT offset ceiling emissions, the State's demonstration shows compliance with the VMT emissions offset requirement. This means that the adopted TCSs and TCMs are sufficient to offset the growth in emissions from the growth in VMT and vehicle trips in Coachella Valley for the 1997 8-hour ozone standards. Taking into account the creditable post-baseline year TCMs and TCSs, the demonstration shows Coachella Valley offset hypothetical growth in emissions due to growth in VMT by 2 tpd of VOC, which is more than the required 1 tpd offset.<sup>56</sup>

Based on our review of the 2014 SIP Update, we find the State's analysis to be acceptable and agree that the State has adopted sufficient TCSs and TCMs to offset the growth in emissions from growth in VMT and vehicle trips in the Coachella Valley for the purposes of the 1997 8-hour ozone standards. Thus we find that the VMT emissions offset demonstration for this area complies with the VMT emissions offset requirement in CAA section 182(d)(1)(A), consistent with 40 CFR 40 CFR 51.1105(a)(1) and 51.1100(o)(10). Therefore, we propose

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<sup>56</sup> The offsetting VOC emissions reductions from the TCSs and TCMs put in place after the base year can be determined by subtracting the "projected actual" emissions estimates from the "no action" emissions estimates in table 8. For the purposes of the 8-hour ozone demonstration, the offsetting emissions reductions, 2 tpd (4 tpd minus 2 tpd), exceed the growth in emissions from growth in VMT and vehicle trips (1 tpd).

approval of the revised VMT emissions offset demonstration for the 1997 8-hour ozone standards, contained in the 2014 SIP Update, as a revision to the California SIP.

## **V. The EPA's Proposed Actions**

### *A. The EPA's Proposed Approvals*

For the reasons discussed above, the EPA is proposing to approve the Coachella Valley Ozone Plan for the 1997 8-hour ozone NAAQS. The Plan includes the relevant portions of the following documents: (1) "Final 2007 Air Quality Management Plan," South Coast Air Quality Management District, June 2007; (2) CARB's "2007 State Strategy for the California State Implementation Plan," Release Date April 26, 2007 and Appendices A – G, Release Date May 7, 2007; (3) CARB's "Status Report on the State Strategy for California's 2007 State Implementation Plan (SIP) and Proposed Revision to the SIP Reflecting Implementation of the 2007 State Strategy," Release Date: March 24, 2009; (4) CARB's "Progress Report on Implementation of PM<sub>2.5</sub> State Implementation Plans (SIP) for the South Coast and San Joaquin Valley Air Basins and Proposed SIP Revisions," Release Date March 29, 2011; and (5) CARB's "Staff Report, Proposed Updates to the 1997 8-Hour Ozone Standard, State Implementation Plans; Coachella Valley and Western Mojave Desert," Release Date: September 22, 2014.

The EPA is proposing to approve the following elements of the Coachella Valley Ozone Plan under CAA section 110(k)(3):

1. The RACM demonstration as meeting the requirements of CAA section 172(c)(1) and 40 CFR 51.1105(a)(1) and 51.1100(o)(17);
2. The ROP and RFP demonstrations as meeting the requirements of CAA sections 172(c)(2) and 182(c)(2)(B) and 40 CFR 51.1105(a)(1) and 51.1100(o)(4);

3. The attainment demonstration as meeting the requirements of CAA section 182(c)(2)(A) and 40 CFR 51.1105(a)(1) and 51.1100(o)(12);
4. The demonstration that the SIP provides for transportation control strategies and measures sufficient to offset any growth in emissions from growth in VMT or the number of vehicle trips, and to provide for RFP and attainment, as meeting the requirements of CAA section 182(d)(1)(A) and 40 CFR 51.1105(a)(1) and 51.1100(o)(10).

We are also approving the revised MVEBs for RFP for 2017 and for the attainment year of 2018, because they are derived from approvable RFP and attainment demonstrations and meet the requirements of CAA sections 176(c) and 40 CFR part 93, subpart A.

#### *B. Request for Public Comments*

The EPA is soliciting public comments on the issues discussed in this document or on other relevant matters. We will accept comments from the public on this proposal for the next 30 days. We will consider these comments before taking final action.

## **VI. Statutory and Executive Order Reviews**

Additional information about these statutes and Executive Orders can be found at <http://www2.epa.gov/laws-regulations/laws-and-executive-orders>.

#### **A. Executive Order 12866: Regulatory Planning and Review and Executive Order 13563:**

##### **Improving Regulation and Regulatory Review**

This action is not a significant regulatory action and was therefore not submitted to the Office of Management and Budget (OMB) for review.

#### **B. Paperwork Reduction Act (PRA)**

This action does not impose an information collection burden under the PRA because this action does not impose additional requirements beyond those imposed by state law.

### C. Regulatory Flexibility Act (RFA)

I certify that this action will not have a significant economic impact on a substantial number of small entities under the RFA. This action will not impose any requirements on small entities beyond those imposed by state law.

### D. Unfunded Mandates Reform Act (UMRA)

This action does not contain any unfunded mandate as described in UMRA, 2 U.S.C. 1531–1538, and does not significantly or uniquely affect small governments. This action does not impose additional requirements beyond those imposed by state law. Accordingly, no additional costs to State, local, or tribal governments, or to the private sector, will result from this action.

### E. Executive Order 13132: Federalism

This action does not have federalism implications. It will not have substantial direct effects on the states, on the relationship between the national government and the states, or on the distribution of power and responsibilities among the various levels of government.

### F. Executive Order 13175: Coordination with Indian Tribal Governments

This action does not have tribal implications, as specified in Executive Order 13175, because the SIP is not approved to apply on any Indian reservation land or in any other area where the EPA or an Indian tribe has demonstrated that a tribe has jurisdiction, and will not impose substantial direct costs on tribal governments or preempt tribal law. Thus, Executive Order 13175 does not apply to this action.

### G. Executive Order 13045: Protection of Children from Environmental Health Risks and Safety Risks

The EPA interprets Executive Order 13045 as applying only to those regulatory actions that concern environmental health or safety risks that the EPA has reason to believe may disproportionately affect children, per the definition of “covered regulatory action” in section 2-202 of the Executive Order. This action is not subject to Executive Order 13045 because it does not impose additional requirements beyond those imposed by state law.

#### H. Executive Order 13211: Actions that Significantly Affect Energy Supply, Distribution, or Use

This action is not subject to Executive Order 13211, because it is not a significant regulatory action under Executive Order 12866.

#### I. National Technology Transfer and Advancement Act (NTTAA)

Section 12(d) of the NTTAA directs the EPA to use voluntary consensus standards in its regulatory activities unless to do so would be inconsistent with applicable law or otherwise impractical. The EPA believes that this action is not subject to the requirements of section 12(d) of the NTTAA because application of those requirements would be inconsistent with the CAA.

#### J. Executive Order 12898: Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Population

The EPA lacks the discretionary authority to address environmental justice in this rulemaking.

### **List of Subjects in 40 CFR Part 52**

Environmental protection, Air pollution control, Incorporation by reference, Intergovernmental regulations, Nitrogen dioxide, Ozone, Reporting and recordkeeping requirements, Volatile organic compounds.

**AUTHORITY:** 42 U.S.C. 7401 *et seq.*

Dated: October 19, 2016.

Alexis Strauss,  
Acting Regional Administrator,  
EPA Region IX.

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